Name: Rachel Fischhoff Grade: 5 Date:

Perimeter Stays the Same

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| Lesson Sources: Schuster, pg. 328 |
| Lesson Objectives: Students will explore the relationship between area and perimeter by creating and examining shapes with constant perimeter measures and various areas. |
| Standards: 5G 4. Classify two-dimensional figures in a hierarchy based on properties. |
| Multicultural Content: |
| Materials and Advanced Preparation: grid paper, chart for least and greatest area, scissors at the end |
| Prior Knowledge and Skills Needed: Understanding/review of area/perimeter |
| Key/New Vocabulary:  area: the measure of the inside region of a figure  perimeter: the measure around a figure |

Lesson Procedure: Part One

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| **Time** | **Teacher Actions** | **Student Learning Activities** | **Form of Assessment** |
| 1 min | **1. Connection**   * Mathematicians, on Monday we thought about the relationship between a figure’s area and it’s perimeter by looking at the varied perimeters of shapes with the exact same area. * Today, we will be thinking about this same relationship in a different way—we will be looking at figures with a constant *perimeter*, but varied *areas.* | Situating today’s lesson in past learnings | Active listening |
| 10 min max | **2. The Teaching (The Giving of Information):**   * Watch while I create a shape on my grid paper with a perimeter of 30 units. * Notice how I count as I’m going along—this helps me make sure I’m keeping track of the perimeter as I draw, instead of saving the counting for the end. * Do you agree that I have drawn a figure with a perimeter of 30 units? * Now I’ll find the area… | * Watching the model | * Active listening |
|  | **3. Link**   * Today you will work independently to find figures with a constant perimeter—30 units—and varied areas. How many do you think we will find? | **(Workshop Time)**   * Drawing figures on grid paper * Calculating area |  |
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|  | **4. Mid-workshop interuption**   * Mathematicians, it is time to come together with your table group. * Which figure has the greatest area? Which figure has the least area? * Decide as a group and cut these out. Take them to the rug and tape them to the appropriate section on our chart! |  |  |
|  | **5. Closing (at the share)**   * What do we notice? Can we generalize? * Do we see that skinny shapes have lesser areas, fatter shapes have greater areas * Real world application?! | * Noticing * Whole class discussion | * Checking products for accuracy * Guiding the conversation toward big picture ideas about area and perimeter |
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**Reflections:**

How did the lesson plan work? What was effective? What did you learn? What would you change for tomorrow or the next time you will use this plan?